

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>310400036WO1</b>	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. <b>PCT/JP2004/009876</b>	International filing date (day/month/year) <b>05.07.2004</b>	Priority date (day/month/year) <b>07.07.2003</b>	
International Patent Classification (IPC) or national classification and IPC <b>G06F3/06, 12/16, G11C16/02</b>			
Applicant <b>HITACHI ULSI SYSTEMS CO., LTD.</b>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <b>7</b> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <b>5</b> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																								
<p>4. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/009876

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

international search (Rule 12.3 and 23.1(b))  
 publication of the international application (Rule 12.4)  
 international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

the international application as originally filed/furnished  
 the description:  
 pages 1-18 \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:  
 nos. 12 \_\_\_\_\_ as originally filed/furnished  
 nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 nos.\* 1, 3-11, 14, 15, 17-23, 25, 26 \_\_\_\_\_ received by this Authority on 06.05.2005  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:  
 sheets fig. 1-16 \_\_\_\_\_ as originally filed/furnished  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, nos. 2, 13, 16, 24 \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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## 1. Statement

Novelty (N)	Claims	4-9, 12, 14, 15, 17-22, 25, 26	YES
	Claims	1, 3, 10, 11, 23	NO
Inventive step (IS)	Claims		YES
	Claims	1, 3-12, 14, 15, 17-23, 25, 26	NO
Industrial applicability (IA)	Claims	1, 3-12, 14, 15, 17-23, 25, 26	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

Document 1: JP 10-063551 A (Nihon Denki Office System Kabushiki Kaisha), 6 March 1998, entire text, fig. 1-3, fig. 6, fig. 9 (Family: none)

Document 2: JP 06-149480 A (Fujitsu Ltd.), 27 May 1994, paragraph [0016], fig. 3-4 (Family: none)

Document 3: JP 2001-165682 A (Equos Research Co., Ltd.), 22 June 2001, paragraphs [0002]-[0030], fig. 1 (Family: none)

Document 4: JP 04-351764 A (NEC Engineering Kabushiki Kaisha), 7 December 1992, paragraphs [0008]-[0018], fig. 1 (Family: none)

Document 5: JP 06-282380 A (Toshiba Corp.), 7 October 1994, paragraphs [0010]-[0020], fig. 1-5 (Family: none)

The inventions set forth in claims 1, 3, 10, 11, and 23 are disclosed in document 1 (especially paragraphs [0020] to [0031], [0040], and [0041]) cited in the international search report, and thus, lack novelty and do not involve an inventive step. In particular, document 1 discloses "a non-volatile semiconductor memory containing flash memory" (paragraph [0003]), and states

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that "in the same manner as with the magnetic disk device, the recording region of the non-volatile semiconductor memory (9) is divided into sector units and managed by a RAM disk control means (8), and from DOS (1), [the non-volatile semiconductor memory appears] to be the same as the magnetic disk device, but just happens to be a different memory device, and although there is a large difference between memory read and write speeds, the basic procedures of operation are almost the same." Document 1 also indicates that "the slow access speed of the magnetic disk device (11) meant that the acquisition of file data took a long time, resulting in a problem with the slow speed of file access. File access speed is very fast with the non-volatile semiconductor memory (9), but a memory region with a large capacity is required in order to store a large number of applications, which in turn requires the storage of a large number of files under one directory, resulting in a problem of high cost" (paragraph [0009]).

The inventions set forth in claims 4, 6, 8, 9, 14, 15, 17, 19, 21, 22, and 26 do not involve an inventive step in the light of document 1 cited in the international search report. The setting of an upper limit to the memory capacity of a memory device and the use of flash memory wherein sector units are integer multiples of 512 bytes are merely features fittingly determined by a person skilled in the art. Given the disclosures in paragraphs [0003] and [0009] and that NAND and AND types of flash memory are known in the art, the selection of either NAND or AND flash memory is merely the selection of the most appropriate material, and

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something of which a person skilled in the art could easily conceive. The deletion from a magnetic disk device of data that has been copied to a non-volatile semiconductor memory is also nothing more than a feature fittingly determined by a person skilled in the art.

Moreover, an adaptation whereby processing carried out within a memory apparatus is carried out by an upper-level apparatus is merely the exercise of the normal creative skill of a person skilled in the art. Namely, it is deemed that a person skilled in the art could easily conceive of providing a memory apparatus with a terminal for identifying a memory device in order to cause a memory device-selecting process carried out within the memory apparatus to be carried out by an upper-level apparatus, such as in the invention described in claim 15. Meanwhile, the effect of such provision is not recognized as an exceptional feature.

The inventions set forth in claims 5 and 18 do not involve an inventive step in the light of document 1 and document 2 (especially paragraph [0016]) cited in the international search report. A person skilled in the art could easily conceive of adapting the magnetic disk device disclosed in document 1 by using a slot to make the disk removable, as with the magnetic disk activation unit disclosed in document 2.

The inventions set forth in claims 7, 20, and 25 do not involve an inventive step in the light of document 1 and document 3 (paragraphs [0002] to [0011]) cited in the international search report. A person skilled in the art could easily conceive of using the information processing

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device disclosed in document 1 in a car navigation tool having a disk-type memory medium, such as the invention disclosed in document 3.

The invention set forth in claim 12 does not involve an inventive step in the light of document 1 and document 4 (paragraphs [0008] to [0018]) cited in the international search report. A person skilled in the art could easily conceive of adapting the flash memory disclosed in document 1 so that it stores parity data, as does the non-volatile memory disclosed in document 4.

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## Box No. VI Certain documents cited

## 1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
JP 2004-005778 A	08.01.2004	30.05.2002	

[E, X]

## 2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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